



# ALPISTE

## Nutrition and Sensory profile

Alpiste (Canary seed) is a novel specialty grain that has been approved for human consumption in Canada, the United States and the European Union. Alpiste is a member of the same cereal grain family as wheat, oats, barley and rye. Alpiste is a versatile, high protein (21%) nutrient dense speciality grain.



## Macronutrient Composition



### Protein

Alpiste boasts a protein content higher than most common cereal grains and pseudocereals, such as oats and amaranth. Alpiste has a higher content of essential amino acids tryptophan, phenylalanine, isoleucine and leucine compared to other common grains.



### Fat

Alpiste has higher fat content compared to wheat, barley and other pseudocereals like buckwheat. The predominant fatty acids in alpiste are oleic (monounsaturated omega-9 fatty acid) at 30%; linoleic (polyunsaturated omega-6 fatty acid) at 55% and palmitic (saturated fatty acid) at 15%, with about 2% omega-3 fatty acids.



### Carbohydrate & Fibre

Alpiste is similar to other grains and pseudocereals in its carbohydrate level. The majority of the fibre in alpiste is insoluble.



### Antioxidants


The major carotenoids in alpiste are B-carotene, lutein and zeaxanthin. The high level of B-carotene (5700 mg/kg) distinguishes it from other grains. The phytochemicals tocopherols (forms of Vitamin E) in alpiste are comparable to oats at 2.8 mg/100g.


Macro and Micronutrient Composition Comparison* (mg/100g)		PROTEIN (%)	FAT (%)	CHO (%)	TOTAL DIETARY FIBRE (%)	Folate	Phosphorous	Magnesium	Manganese	Iron	Zinc
Cereals	Alpiste (Canary seed)	21	6.5	60	6.5	0.12	660	213	6.4	7	4
	Wheat	16	3	72	12	0.09	410	160	5	5	3
	Oats	13	6	68	10	0.06	490	175	5	5	4
	Barley	12	2	70	16	0.02	285	135	2	4	4
Pseudocereals	Amaranth	14	6	66	9	0.08	547	250	4	7.6	3
	Buckwheat	13	3	71	10	0.03	347	230	1.4	4	2.5
	Quinoa	14	6	70	10	0.15	450	200	2	4.5	2
Pulses & Seeds	Chickpeas	20	6	62	10	0.50	252	80	3	4	3
	Lentils	25	2	63	11	0.50	280	50	1.4	7	3.3
	Flaxseeds	20	41	29	26	0.08	640	390	2.5	6	4.3


\* Values provided by Canary Seed Development Commission of Saskatchewan

## Sensory Profile

Alpiste (Canary seed) has a golden colour and slightly nutty flavour that is enhanced with roasting. It adds a light, crunchy texture to many food applications. In sensory panels, it scored high for appearance, texture, taste and acceptability.

 **Versatile Specialty Grain** The dehulled grain can be roasted, flaked, puffed, crisped and sprouted. It can be used on its own similar to quinoa, and as an ingredient in several products including bars, baked goods, snacks, breads and meat and dairy alternatives.

 **Flours** Alpiste can be milled into heat-treated flours of different textures for a variety of applications. It cannot completely replace gluten containing flours in most recipes, but preliminary tests demonstrate it works well in gluten-free flour blends.

 **Shelf-life** The shelf-life is 15 months for the dehulled grain and eight months for flour.

## Gluten-Free

Alpiste has been tested and proven to be gluten-free (contains no gluten protein) and is therefore safe for individuals with celiac disease.

However, during the safety studies on the grain, it was observed that it may contain a protein similar to a *wheat allergen protein*.

In Canada, to inform wheat allergic consumers, the statement “*may not be suitable for consumers with a wheat allergy*” must appear on labels of pre-packaged alpiste and pre-packaged foods using alpiste as an ingredient that do not also contain wheat.